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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,188	07/31/2003	Dean Edward McConnell		1424

7590 12/10/2004  
Dean E. McConnell  
9609 Conifer Court  
Fishers, IN 46038

EXAMINER

ROANE, AARON F

ART UNIT PAPER NUMBER

3739

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/631,188

Applicant(s)

MCCONNELL, DEAN EDWARD

Examiner

Aaron Roane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/14/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7-18, 21, 22 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibbs et al. (USPN 5,871,526).

Regarding claim 1, Gibbs et al. disclose a thermal compression system adapted to encompass a portion of a limb, comprising: a fluid container (50) having a fluid output line (tubing between 50 and 10) and a fluid input line (tubing between 16 and 50); a fluid pump (10) connected with the fluid output line of the fluid container; a cuff (16, specifically 3a –3c) connected with an output of the fluid pump that receives fluid from the fluid container through the fluid pump; where the cuff includes at least one fluid chamber that receives fluid from the fluid pump, where the at least one fluid chamber (19) is formed having a predetermined shape that avoids applying compression in at least one area of the limb that has at least one blood flow path while at the same time applies compression in at least one therapeutic area of the limb; and where the at least one fluid

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chamber includes at least one cuff output (18) that is connected with the fluid input line of the fluid container that allows fluid to be returned to the fluid container from the cuff, see col. 10-11 and figures 1-13 for alternative illustrations.

Regarding claims 2-4, Gibbs et al. disclose the claimed invention, see col. 7-18 and figures 1-20.

Regarding claim 7, Gibbs et al. further disclose at least one quick-disconnect connector (17 and 18) that connects the output line of the fluid pump and the fluid input line of the fluid container with the cuff, see col. 10, lines 23-36 and figure 1.

Regarding claim 8, Gibbs et al. disclose thermal compression system comprising: a means for securing (30-32) a cuff to an outside portion of a limb; a means for holding fluid (50); a fluid pump (10) for pumping fluid into the cuff from the means for holding fluid; a means for removing fluid from the cuff and returning fluid to the means for holding fluid (tubing between 16 and 50); and where the cuff includes means for restricting compression being applied to at least one blood flow path of the limb while at the same time providing compression in at least one therapeutic area of the limb (all of the cuffs shown in figures 3a-12c and 16-20 cover and compress a portion/area of a limb while covering/compressing another portion/area of a limb, it should be noted that all and every area of the limb have some path for blood flows), see col. 10-11 and figures 1-13 for alternative illustrations.

Regarding claim 9, Gibbs et al. disclose a method of applying thermal compression to part of a human body, comprising the steps of: (a) securing a cuff to engage an outside portion of a limb; (b) supplying fluid to the cuff with an electric fluid pump; (c) restricting compression being applied by the cuff to an outside portion of the limb in an area containing at least one blood flow path; (d) supplying compression to the outside portion of the limb in at least one therapeutic area; and (e) removing fluid from the cuff while at the same time replacing the removed fluid with new fluid, see col. 1-14 and all of the figures.

Regarding claim 10, 11, 13 and 14, Gibbs et al. disclose the claimed invention, see col. 10-12 and figures 1-3c.

Regarding claim 12, Gibbs et al. further disclose that the step of restricting compression is accomplished by prohibiting fluid from entering a compression chamber of the cuff that is located in the area of the at least one blood flow path, see col. 10-12 and figures 1-3c. The thermal pad shown in figures 3a-3c have little chambers configured as wedge shaped segments that are located between adjoining segments of the fluid filled passageway and these chambers are not filled with fluid.

Regarding claim 15, Gibbs et al. disclose a thermal compression system adapted to encompass a portion of a limb, comprising: a fluid container (50) having a fluid output

line and a fluid input line; a fluid pump (10) connected with the fluid output line of the fluid container; a cuff (16, particularly the one shown in figures 3a-3c) connected with the fluid pump; where the cuff includes a lower fluid chamber (fluid passage segments near 18) that receives fluid from the fluid pump, where the cuff includes an upper fluid chamber (fluid passage segments near 17) that receives fluid from the fluid pump, where the upper fluid chamber is formed in a predetermined shape that avoids applying compression in at least one area of the limb that containing at least one blood flow path while at the same time supplying compression in at least one area of the limb that requires therapy, and where the lower fluid chamber and the upper fluid chamber include at least one output (18) that is connected with the fluid input line of the fluid container that returns fluid to the fluid container, see col. 10-11 and figures 1-13 for alternative illustrations.

Regarding claim 16, Gibbs et al. disclose a control unit (200) connected with the fluid pump that controls operation of the fluid pump, see col. 10-12 and col. 13 and figure 1.

Regarding claims 17 and 18, Gibbs et al. disclose the claimed invention, see col. 13-18.

Regarding claim 21, Gibbs et al. disclose the claimed invention, see col. 10-13 and figures 1-12 and 16-20.

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Regarding claim 22, Gibbs et al. disclose a thermal compression system adapted to encompass a knee of a person, comprising: a container (50) having a fluid output line and a fluid input line, where the container holds fluid used for treating the knee; a cuff including a fluid input (17), a fluid output (18), and a fluid chamber (fluid circulation passages) that includes at least one fluid receiving cavity (first straight segment of fluid circulation passage located immediately adjacent to inlet 17) and at least one compression cavity (the other segments of the fluid circulation passage), where the cuff is capable of being secured around the knee so that a surface of the cuff is in contact with the knee, see col. 10-11 and figures 1-13 for alternative illustrations, particularly figure 4a.

Regarding claim 24, Gibbs et al. disclose a control unit (200) connected with the fluid pump that controls operation of the fluid pump, see col. 10-12 and col. 13 and figure 1.

Regarding claims 25 and 26, Gibbs et al. disclose the claimed invention, see col. 13-18.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 19 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al. (USPN 5,871,526).

Regarding claims 5, 19 and 27, Gibbs et al. disclose the claimed invention except for explicitly reciting that the temperature sensor is located in the fluid chamber or the lower cavity of the fluid chamber. Gibbs et al. do disclose that the temperature sensor may be provided in the heat exchanger and/or on the thermal pad itself, see col. 7. At the time of the invention, it would have been an obvious matter of design choice to one of ordinary skill in the art to use a temperature sensor located in/on the fluid chamber and/or in the lower cavity of the fluid chamber because Applicant has not disclosed that placing the temperature sensor within the fluid chamber and/or within the lower cavity of the fluid chamber provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the temperature sensor located on the thermal pad because either configuration gives an accurate temperature reading with small error bars and the difference in temperature readings between the two configurations is negligible for the purposes of external to the body thermal treatment.

Claims 6, 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al. (USPN 5,871,526) as applied to claims 1, 15 and 22 above, and further in view of Gildersleeve et al. (USPN 6,352,550 B1).



Regarding claims 6, 20 and 28, Gibbs et al. disclose the claimed invention except for explicitly reciting that a pressure sensor is located in the fluid chamber, where the control unit generates an indication if the pressure sensor senses that the pressure being applied by the cuff reaches a predetermined threshold. Gildersleeve et al. disclose a thermal treatment pad/wrap using fluid and teach the provision of a pressure sensor within the pad such that “pump 66 may provide a constant flow rate, constant pressure or be structured and employed as otherwise desired. It may, if desired, be modulated with feedback from temperature, velocity or pressure sensor within the pad 10, tubes 62 and 64, or as otherwise desired to regulate flow rate, flow velocity, temperature and heat exchange properties of pad 10. For a simple example, temperature within the reservoir 60 and the drop across pad 10 may be monitored in order to modulate or control operation of the pump and recirculation of fluid within tubes 62 and 64 to regulate temperature of thermal medium or fluid 9 within the pad 10.” Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Gibbs et al., as taught by Gildersleeve et al., to provide pressure sensor is located in the fluid chamber, where the control unit generates an indication if the pressure sensor senses that the pressure being applied by the cuff reaches a predetermined threshold.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs et al. (USPN

5,871,526) as applied to claims 1, 15 and 22 above, and further in view of Johnson, Jr. et al. (USPN 5,466,250 B1).

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Regarding claim 23, Gibbs et al. disclose the claimed invention except for explicitly reciting that there is an opening in the cuff that is used to position the patella of the knee in the cuff. Johnson, Jr. et al. disclose a thermal automatic fluid compress and circulating system and teach the provision of placing an opening (18) in the thermal compress (10) in order to receive the patella or knee cap such that pressure and temperature are not applied to the patella or knee cap, see col. 4, lines 38-67 and figures 1-4. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Gibbs et al., as taught by Johnson, Jr. et al., to provide the thermal compress with an opening in order to receive the patella or knee cap such that pressure and temperature are not applied to the patella or knee cap.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Roane whose telephone number is (703) 305-7377. The examiner can normally be reached on 9am - 5pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.R. *A.R.*  
December 6, 2004

*Roy D. Gibson*  
ROY D. GIBSON  
PRIMARY EXAMINER